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Anacraspedodidymum, a new genus from submerged wood in Brazil

Carolina Ribeiro Silva[1], Rafael F. Castañeda-Ruiz[2], & Luis Fernando Pascholati Gusmão[3]*

[1]*Departamento de Micologia, Universidade Federal de Pernambuco, 50670-420, Recife, Brazil*
[2]*Instituto de Investigaciones Fundamentales en Agricultura Tropical 'Alejandro de Humboldt' (INIFAT), Académico Titular de la Academia de Ciencias de Cuba, Calle 1 Esq. 2, Santiago de Las Vegas, C. Habana, Cuba, C. P. 17200*
[3]*Departamento de Ciências Biológicas, Laboratório de Micologia, Universidade Estadual de Feira de Santana, BR116 KM03, 44031-460, Feira de Santana, Brazil*
*Correspondence to: lgusmao@uefs.br

Abstract — *Anacraspedodidymum aquaticum* gen. et sp. nov., found on submerged decaying wood in Riacho do Mel, Bahia, Brazil, is described and illustrated. It is characterized by monophialidic, integrated, terminal conidiogenous cells, with a funnel shaped collarette and solitary, obovoid, globose to elliptical, slightly apiculate at the base, aseptate, hyaline conidia with irregular to subreticulate mucous ornamentation. A new combination, *Anacraspedodidymum hyalosporum,* is proposed to accommodate *Craspedodidymum hyalosporum.*

Key words — microfungi, freshwater, taxonomy

Introduction

During research on conidial fungi associated with submerged decaying plant material in Riacho do Mel, municipality of Alagoinhas, Bahia, Brazil, an interesting fungus was found, distinguished by phialidic conidiogenous cells and conidial features that show some similarities with the genus *Craspedodidymum* Hol.-Jech. but which morphologically differs from all described species. Therefore, it is described as new to science.

Samples of submerged litter were placed in paper and plastic bags. In the laboratory the samples were placed in Petri dish moist chambers and stored in a 170 L polystyrene box with 200 mL sterile water plus 2 mL glycerol, at 25°C for 30 days (Castañeda-Ruiz 2005). Mounts were prepared in PVL (polyvinyl alcohol, lactic acid, and phenol) and measurements were made at a magnification of

×1000. Micrographs were obtained with an Olympus microscope (model BX51) equipped with bright field and Nomarski interference optics. The type specimens are deposited in the Herbarium of Universidade Estadual de Feira de Santana (HUEFS).

Taxonomy

Anacraspedodidymum C.R. Silva, R.F. Castañeda & Gusmão, **gen. nov.**

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Differs from *Craspedodidymum* by its hyaline basal apiculate conidia, sometimes with mucilaginous adherences.

Type species: *Anacraspedodidymum aquaticum C.R. Silva et al.*

Etymology: Greek, *Ana-*, meaning upwards, back and again; Latin, *-craspedodidymum* referring to the hyphomycete genus *Craspedodidymum*.

Colonies effuse, hairy, brown to black. Mycelium superficial and immersed. Conidiophores macronematous, mononematous, unbranched, straight to slightly flexuous, septate, smooth or verruculose, brown to pale brown. Conidiogenous cells monophialidic, integrated, terminal, cylindrical, sometimes with percurrent elongations; collarette funnel shaped or infundibuliform, brown. Conidia solitary, aseptate, solitary, ellipsoid, spherical, globose, obpyriform to obovoid, with an inconspicuous basal hilum or slightly papillate, sometimes with mucous adherences or tunicate ornamentation, hyaline.

Anacraspedodidymum aquaticum C.R. Silva, R.F. Castañeda & Gusmão, **sp. nov.** Plate 1

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Differs from *Craspedodidymum* spp. by its hyaline conidia with irregular or subreticulate mucilaginous ornamentations.

Type: Brazil, Bahia State, Alagoinhas, Riacho do Mel, 12°10′S 38°24′W, on submerged decaying wood in a stream, 18 Oct. 2011, coll. C.R. Silva (**Holotype***:* HUEFS 196431).

Etymology: *Latin, aquaticum,* refers to its growing in water.

Colonies effuse, hairy, brown. Mycelium partly superficial, partly immersed in the substratum. Hyphae septate, smooth, pale brown, 2.5 µm diam. Conidiophores macronematous, mononematous, simple, unbranched, straight to slightly flexuous, 2–7-septate, smooth, brown to pale brown at apex, 64–219 × 3–5 µm. Conidiogenous cells monophialidic, integrated, terminal, cylindrical, sometimes with percurrent elongations, 17–63 × 3–4 µm; collarette funnel shaped, 4–5 × 2–3 µm, pale brown. Conidia solitary, ellipsoid, spherical to obovoid, aseptate, with irregular or subreticulate mucilaginous ornamentation, hyaline, 8–12 × 7–8 µm, mostly slightly papillate at the base.

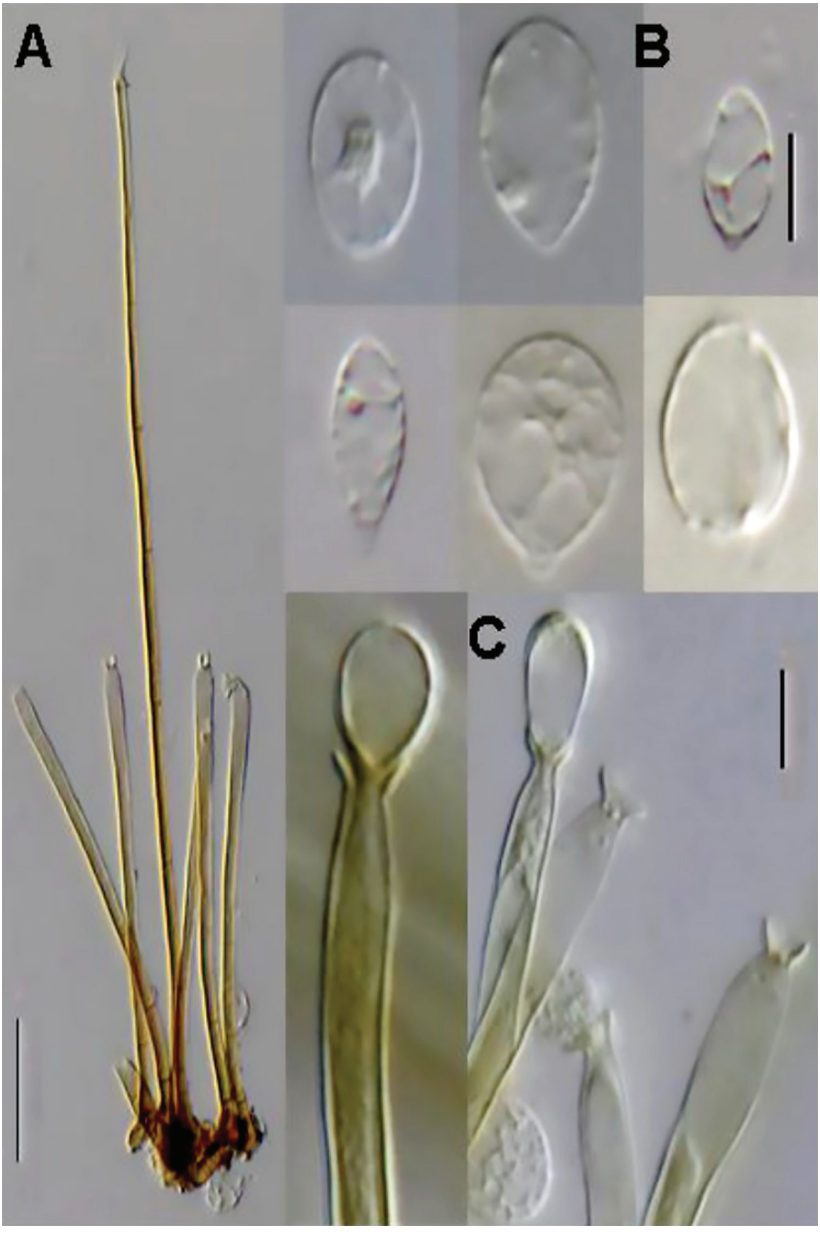

Fig. 1. *Anacraspedodidymum aquaticum* (holotype, HUEFS 196431). A. Conidiophores. B. Conidia. C. Conidiogenous cells and conidia. Scale bars: A = 20 µm; B–C = 5 µm.

Additional specimen examined: **BRAZIL**, **Bahia**, Riacho do Mel, 12°10′S 38°24′W, on submerged wood, 18 Oct. 2011, coll. C.R. Silva (HUEFS 196430).

Notes: Holubová-Jechová (1972) and Seifert et al. (2011) described *Craspedodidymum* (type = *C. elatum* Hol.-Jech.) with dichotomously branched or single conidiophores and phialidic terminal conidiogenous cells with a funnel-shaped collarette; the conidia are solitary, 0–4-septate, brown to dark brown. The *Craspedodidymum* generic concept was enlarged to accommodate *C. hyalosporum*, a species with 1-septate, hyaline conidia (Bhat & Kendrick, 1993) and which differs from all other described *Craspedodidymum* species (Yanna et al. 2000, Ma et al. 2011). We propose a new combination in *Anacraspedodidymum*.

Anacraspedodidymum hyalosporum *(*Bhat & W.B. Kendr.*)* R.F. Castañeda, C.R. Silva & Gusmão, **comb. nov.**

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≡ *Craspedodidymum hyalosporum* Bhat & W.B. Kendr., Mycotaxon 49: 35 (1993).

Bahusutrabeeja Subram. & Bhat, *Cylindrotrichum* Bonord., *Kylindria* DiCosmo et al., and *Monilochaetes* Halst. are also superficially similar to *Anacraspedodidymum*, but *Bahusutrabeeja* has aseptate hyaline conidia with several filiform extracellular appendages. *Cylindrotrichum* has polyphialidic conidiogenous cells, while monophialidic conidiogenous cells are present in *Kylindria*, but blastic sympodial extension frequently occurs within the collarette in both genera (Castañeda-Ruiz & Kendrick 1990, Kirk et al. 2008, Seifert et al. 2011). *Monilochaetes* has monophialidic conidiogenous cells, with an inconspicuous or evident collarette and cylindrical to oblong conidia that accumulate in mucous masses or are (rarely) pseudocatenulate (Reblová et al. 2011, Seifert et al. 2011)

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